

**Listing of the Claims:**

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1-74. (Canceled)

1 75. (Currently Amended) A method of reducing traffic in a decentralised  
2 decentralized peer-to-peer network, said peer-to-peer network operating over an  
3 underlying network comprising first and second network portions, the method  
4 comprising:

5 identifying, with an Internet Service Provider (ISP) router, whether  
6 messages in the first network portion are peer-to-peer messages or other messages;

7 routing a-all peer-to-peer message-messages in one-of said network portions  
8 the first network portion with an intended destination in the other-of said network  
9 portions-second network portion outside of a network of an Internet Service  
10 Provider (ISP) to a gateway between peer-to-peer nodes residing on said first and  
11 second network portions; and

12 controlling transport of said message-peer-to-peer messages at said gateway  
13 to limit propagation of said message-peer-to-peer messages into said-other-of said  
14 network-portions second network portion, without limiting propagation of the other  
15 messages into the second network portion.

1 76. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2 wherein said first network portion comprises a portion of said underlying network  
3 managed by ~~a first entity~~ the ISP and said second network portion comprises a  
4 portion of said underlying network not managed by the ISP that is connected to said  
5 first network portion across a boundary.

1 77. (Currently Amended) ~~A method as claimed in~~ The method of claim 76, further  
2 comprising:  
3 ~~implemented to limit~~ limiting a number of peer-to-peer connections across  
4 said boundary to a permitted maximum.

1 78. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2 wherein said transport controlling further comprises:  
3 blocking said ~~message~~ peer-to-peer messages at said gateway.

1 79. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2 wherein said transport controlling further comprises:  
3 redirecting said ~~message~~ peer-to-peer messages to a peer-to-peer node within  
4 said ~~one of said network portions~~ first network portion.

1 80. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2 wherein said transport controlling further comprises:

3        responding to said ~~message~~ peer-to-peer messages from said gateway.

1    81.    (Currently Amended) ~~A method as claimed in~~ The method of claim 80  
2    wherein said ~~message comprises a query~~ peer-to-peer messages comprise queries,  
3    and wherein said responding further comprises:

4        sending a response to said ~~query~~ queries comprising cached data derived  
5    from previous ~~response~~ responses to the queries.

1    82.    (Currently Amended) ~~A method as claimed in~~ The method of claim 80,  
2    wherein said ~~message comprises a file request~~ peer-to-peer messages comprise file  
3    requests, and wherein said responding further comprises:

4        sending a response to said file ~~request~~ requests comprising previously cached  
5    data for a requested file.

1    83.    (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2    wherein said ~~message comprises a file request message~~ peer-to-peer messages  
3    comprises file request messages, and wherein said controlling further comprises:

4        modifying a response to a previous file search request such that said response  
5    does not indicate that a requested file may be found in said ~~other of said network~~  
6    ~~portions~~ second network portion.

1 84. (Currently Amended) ~~A method as claimed in~~ The method of claim 83,  
2 wherein ~~a~~ said requested file is identified by a hash value.

1 85. (Currently Amended) ~~A method as claimed in~~ The method of claim 83, further  
2 comprising:  
3 storing requested files in a cache, ~~and~~ wherein said response is modified to  
4 refer to said cache.

1 86. (Currently Amended) ~~A method as claimed in~~ The method of claim 83,  
2 wherein said underlying network comprises a third network portion, and wherein  
3 said modifying further comprises:  
4 modifying said response to indicate that said requested file is obtainable from  
5 a peer-to-peer node located on said third network portion.

1 87. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2 wherein said physical network comprises a third network portion, wherein use of  
3 each of said network portions has an associated cost, wherein data transport over  
4 said third network portion has a cost less than a cost associated with said ~~other of~~  
5 ~~said network portions~~ second network portion, and wherein said controlling further  
6 comprises:  
7 directing said ~~message~~ peer-to-peer messages into said third network portion.

1 88. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,  
2 wherein ~~a said peer-to-peer message has a message identifier~~ messages have  
3 message identifiers, and wherein said controlling further comprises:

4 storing said message identifier ~~identifiers~~ identifiers for said ~~message peer-to-peer~~  
5 messages;

6 monitoring message identifiers of the peer-to-peer messages passing through  
7 said gateway to produce identified messages;[[,]] and

8 limiting propagation of said identified ~~message~~ messages such that said  
9 ~~message passes~~ messages pass between said first and second network portions no  
10 more than a permitted maximum number of times.

1 89. (Currently Amended) ~~A method as claimed in~~ The method of claim 88,  
2 wherein said permitted maximum number of times is one.

90-91. (Canceled).

1 92. (Currently Amended) A computer network message controller ~~for reducing~~  
2 that reduces traffic in a ~~decentralised~~ decentralized peer-to-peer network, said peer-  
3 to-peer network operating over a physical network comprising first and second  
4 network portions, said network message controller comprising:

5 a router that identifies whether messages in the first network portion are  
6 peer-to-peer messages or other messages and routes all peer-to-peer messages in the

7 first network portion for routing a peer-to-peer message in one of said first network  
8 portions with an intended destination in the other of said network portions second  
9 network portion outside of a network of an Internet Service Provider (ISP) to a  
10 gateway between peer-to-peer nodes residing on said first and second network  
11 portions; and

12 a gateway controller ~~configured to control~~ that controls transport of said  
13 ~~message-peer-to-peer messages~~ into said ~~other of said network portions second~~  
14 network portion, without limiting propagation of the other messages into the second  
15 network portion.

1 93. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92, wherein said first network  
3 portion comprises a portion of said physical network managed by ~~a first entity the~~  
4 ISP and said second network portion comprises a portion of said physical network  
5 not managed by the ISP that is connected to said first network portion across a  
6 boundary.

1 94. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 93, wherein said gateway  
3 controller ~~is configured to limit~~ limits a number of peer-to-peer connections across  
4 said boundary to a permitted maximum.

1 95. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92 wherein said gateway  
3 ~~controller is configured to block said message~~ blocks the peer-to-peer messages at  
4 said gateway.

1 96. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92 wherein said gateway  
3 ~~controller is configured to redirect said message~~ redirects the peer-to-peer messages  
4 to a peer-to-peer node within said ~~one of said network portions~~ first network  
5 portion.

1 97. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92 wherein said gateway  
3 ~~controller is configured to respond to said message~~ responds to the peer-to-peer  
4 messages.

1 98. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 97, further comprising:  
3 a cache ~~to store~~ that stores data, wherein said ~~message comprises a query~~  
4 peer-to-peer messages comprise queries, and wherein said gateway controller is  
5 ~~configured to send~~ sends a response to said ~~query~~ queries including data from said  
6 cache.

1 99. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 97 wherein said ~~message~~  
3 ~~comprises a file request~~ peer-to-peer messages comprise file requests, further  
4 comprising:

5 a cache ~~to store~~ that stores data derived from previous responses to file  
6 requests, and wherein said gateway controller ~~is configured to send~~ sends a  
7 response to said file request including data from said cache.

1 100. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92, wherein said ~~message~~  
3 ~~comprises a file request message~~ peer-to-peer messages comprise file request  
4 messages, and wherein said gateway controller ~~is configured to modify~~ modifies a  
5 response to a previous file search request such that said response does not indicate  
6 that a requested file may be found in said ~~other of said network portions~~ second  
7 network portion.

1 101. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 100, wherein ~~a~~ said requested  
3 file is identified by a hash value.

1 102. (Currently Amended) ~~A computer network message as claimed in The~~  
2 computer network message controller of claim 100, further comprising:

3 a cache ~~for storing that stores~~ requested files, and ~~where wherein~~ said  
4 gateway controller ~~is configured to modify~~ modifies said response to refer to said  
5 cache.

1 103. (Currently Amended) ~~A computer network message as claimed in The~~  
2 computer network message controller of claim 92 wherein said underlying network  
3 further comprises:

4 a third network portion, ~~and wherein~~ said gateway controller ~~is configured to~~  
5 ~~modify~~ modifies said response to indicate that said requested file is obtainable from  
6 a peer-to-peer node located on said third network portion.

1 104. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92, wherein ~~a~~ said peer-to-peer  
3 ~~message has a message identifier~~ messages have message identifiers, and wherein  
4 said gateway controller ~~is configured to store~~ stores said message identifier  
5 identifiers for said ~~message~~ peer-to-peer messages, ~~monitor~~ monitors message  
6 identifiers of the peer-to-peer messages passing through said gateway to produce  
7 identified messages, and ~~limit~~ limits propagation of said identified ~~message~~  
8 messages such that said ~~message passes~~ identified messages pass between said first  
9 and second network portions no more than a permitted maximum number of times.

1 105. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 104, wherein said permitted  
3 maximum number of times is one.

1 106-107. (Canceled).

1 108. (Currently Amended) ~~A computer network message controller as claimed in~~  
2 The computer network message controller of claim 92, wherein said gateway  
3 controller further comprises:  
4 a processor, and  
5 a program memory storing processor control code coupled to said processor to  
6 load and implement said code, ~~said code comprising code to configure said gateway~~  
7 ~~controller to operate as claimed in claim 92.~~

1 109. (Canceled).

1 110. (Currently Amended) A gateway controller, ~~in particular for the computer~~  
2 ~~network message controller of claim 92, for reducing that reduces~~ that reduces traffic in a  
3 ~~decentralised~~ decentralized peer-to-peer network operating over an underlying  
4 network comprising first and second network portions, the controller being

5 ~~configured for operation~~ operating at a gateway between peer-to-peer nodes residing  
6 on said first and second network portions, the gateway controller comprising:

7 an interface for said first and second network portions, ~~for receiving a that~~  
8 receives all peer-to-peer message- messages in one of said the first network portions  
9 portion with an intended destination in the ~~ether of said second network portions~~  
10 portion outside of a network of an Internet Service Provider (ISP), wherein a router  
11 identifies whether messages in the first network portion are peer-to-peer messages  
12 or other messages; and

13 a controller ~~configured to control transport of said message into said other of~~  
14 said network portions that limits propagation of the peer-to-peer messages into the  
15 second network portion without limiting propagation of the other messages into the  
16 second network portion.

1 111. (Currently Amended) ~~A gateway controller as claimed in The gateway~~  
2 controller of claim 110, wherein said controller ~~is configured to block said message~~  
3 blocks the peer-to-peer messages at said gateway.

1 112. (Currently Amended) ~~A gateway controller as claimed in The gateway~~  
2 controller of claim 110, wherein said controller ~~is further configured to redirect a~~  
3 said message redirects the peer-to-peer messages to a peer-to-peer node within said  
4 one of said first network portions portion.

1 113. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 110, wherein said controller is ~~further configured to respond to a~~  
3 ~~said message~~ responds to the peer-to-peer messages.

1 114. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 113, further comprising:

3 a query cache ~~to store that stores~~ data derived from responses to queries, and  
4 wherein said controller is ~~configured to respond~~ responds to a said query the queries  
5 using data from said query cache, wherein the peer-to-peer messages comprise  
6 queries.

1 115. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 113, further comprising:

3 a file request cache ~~to store that stores~~ data derived from responses to file  
4 requests, ~~and wherein the peer-to-peer messages comprise file requests and said~~  
5 controller is ~~configured to respond~~ responds to a said file request requests using  
6 data from said file request cache.

116. (Canceled).

1 117. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 110, wherein said ~~message comprises a file request message~~

3 peer-to-peer messages comprise file request messages, and ~~wherein~~ said controller  
4 ~~is configured to modify~~ modifies a response to a previous file search request such  
5 that said response does not indicate that a requested file may be found in said ~~other~~  
6 ~~of said network portions~~ second network portion.

1 118. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 117, wherein ~~a~~ said requested file is identified by a hash value.

1 119. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 117, further comprising:

3 a cache ~~for storing that stores~~ requested files, and wherein said controller is  
4 ~~configured to modify~~ modifies said response to refer to said cache.

1 120. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 110, wherein said underlying network further comprises:

3 a third network portion, and wherein said controller ~~is configured to modify~~  
4 modifies said response to indicate said requested file is obtainable from a peer-to-  
5 peer node located on said third network portion.

1 121. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 110, wherein ~~a said peer-to-peer message has a message~~  
3 ~~identifier~~ the peer-to-peer messages have message identifiers, and ~~wherein~~ said

4 controller ~~is configured to store~~ stores said message ~~identifier for said message~~  
5 identifiers for the peer-to-peer messages, ~~monitor~~ monitors the message identifiers  
6 of ~~messages the peer-to-peer messages~~ passing through said gateway to produce  
7 identified messages, and ~~limit~~ limits propagation of said identified ~~message~~  
8 messages such that said ~~message passes peer-to-peer messages pass~~ between said  
9 first and second network portions no more than a permitted maximum number of  
10 times.

1 122. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 121, wherein said permitted maximum number of times is one.

1 123. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 110, wherein said first network portion comprises a portion of  
3 said underlying network managed by ~~a first entity~~ the ISP and said second network  
4 portion comprises a portion of said underlying network not managed by the ISP  
5 that is connected to said first network portion across a boundary, and wherein said  
6 controller ~~is configured to provide~~ provides a limited number of peer-to-peer  
7 connections across said boundary.

124-125. (Canceled).

1 126. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway  
2 controller of claim 110, wherein said controller further comprises:

3 a processor;[[,]] and

4 a program memory storing processor control code coupled to said processor to  
5 load and implement said code, said code comprising code to configure said controller  
6 to control transport of said message into said other of said network portions.

127-148. (Canceled).